Illinois Commerce Commission

Assessment of Mt. Carmel Public Utility Company's

Reliability Report and Reliability Performance

for Calendar Year 2004

Pursuant to 83 Ill. Adm. Code 411.140

December, 2005

1. Executive Summary

Pursuant to Section 16-125 of the Illinois Public Utilities Act and the Commission's electric reliability rules in 83 Illinois Administrative Code, Part 411, Mt. Carmel Public Utility Company (Mt. Carmel) filed its annual electric reliability report for calendar year 2004 on June 1, 2004.

This document details Staff's assessment of Mt. Carmel's reliability report and Staff's evaluation of Mt. Carmel's reliability performance for calendar year 2004.

Since this was only the third year of reliability reporting for Mt. Carmel, significant reliability trends are not yet available, but the available data does show that Mt. Carmel customers have consistently experienced more interruptions than other Illinois utility customers over the three years.

Mt. Carmel was the least reliable utility, in terms of average frequency of system interruptions (SAIFI) and average frequency of customer interruptions (CAIFI) during 2004 as it has been for the three years it has been reporting system SAIFI and CAIFI numbers. Although the overall SAIFI is slightly better than reported in 2003 (SAIFI improved from 2.71 in 2003 to 2.69) Mt. Carmel's overall 2004 SAIFI of 2.69 was still 32.5% higher than the next worst utility in this category, MidAmerican Energy Company.

The total number of interruptions reported for 2004 (495) is up almost 60% from the same data reported for year 2003 (301). The total number of interruptions has increased each of the three years that Mt. Carmel has filed its annual reliability report. Mt. Carmel listed weather (35%), overhead equipment (15%) and animals (14%) as the most principal causes of its service interruptions in 2004. Staff believes that some of the interruptions attributed to weather may have also involved trees. Staff believes Mt. Carmel should make it their practice to look at the root cause that individual outage. The number of weather-caused interruptions (173) increased by almost three times from the 62 attributed to that cause in 2003.

Mt. Carmel's proposed distribution O&M and capital budget for the years 2006 and 2007 is less than what has been spent in years 1995-2004. This is a concern to Staff since Mt. Carmel's overall reliability indices would indicate that Mt. Carmel should be increasing not decreasing its planned spending in an attempt to improve its reliability. At the current proposed budget Mt. Carmel will have a difficult time just maintaining the status quo. In Staff's opinion this means Mt. Carmel will likely continue to have the worst system interruption frequency in the state.

Staff's field inspections of Mt. Carmel's distribution lines revealed very few problems with trees or hardware. Even though few tree related problems were observed by Staff during the three circuit inspections, Staff is concerned that Mt. Carmel may not be sufficiently trimming trees to maintain proper clearance or be funding its tree trimming effort sufficiently

to implement its three year cycle. Staff will continue to investigate Mt. Carmel's tree trimming effort and funding.

Mt. Carmel listed several construction, operating, and maintenance activities that the company is doing to improve reliability, which are summarized in Section 9 of this report. These are positive steps toward reliability improvement, one particular project is noteworthy. Mt. Carmel is scheduled to be complete the installation of a new substation southwest of the City of Mt. Carmel in 2006. Staff believes that with the installation of this substation and the associated distribution circuit(s) Mt. Carmel will have an opportunity to improve the reliability its customers in that portion of Mt. Carmel's service area.

Remedial work on worst performing circuits described in Mt. Carmel's 2003 reliability report was completed, accomplished by other actions, or rescheduled because of reasons provided which seemed reasonable to Staff.

While the above discussion covers the most significant items in a general way, a total of six specific recommendations are included in this Staff report, summarized on pages 18-19.

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2. Introduction

Beginning with the year 1999, and at least every three years thereafter, 83 Illinois Administrative Code Part 411.140 requires the Commission to assess the annual reliability report of each jurisdictional entity and evaluate its reliability performance. Code Part 411.140 requires the Commission evaluation to:

A) Assess the reliability report of each entity.

B) Assess the jurisdictional entity's historical performance relative to established reliability targets.

C) Identify trends in the jurisdictional entity's reliability performance.

D) Evaluate the jurisdictional entity's plan to maintain or improve reliability.

E) Include specific identification, assessment, and recommendations pertaining to any potential reliability problems and risks that the Commission has identified as a result of its evaluation.

F) Include a review of the jurisdictional entity's implementation of its plan for the previous reporting period.

Mt. Carmel Public Utility Company (Mt. Carmel) is one of three electric utilities in Illinois that were exempted from the requirements of the Commission's electric service reliability policy (83 Ill. Adm. Code 410, Subpart C) as of December 16, 1997, and were not required to maintain records reflecting such information for any period prior to January 1, 2002. Because of that exemption, Mt. Carmel's annual reliability report for calendar year 2004 is its third annual reliability report to the Commission.

This document provides Staff's assessment of the annual reliability report covering calendar year 2004 filed by Mt. Carmel on June 1, 2005, and Staff's evaluation of Mt. Carmel's reliability performance for calendar year 2004. This report is organized to include all of the above listed requirements.

3. Mt. Carmel's 2004 Customer Base and Service Territory

As reported in its annual reliability report, Mt. Carmel Public Utility Company provided electric service to approximately 5,700 customers in Illinois in 2004. Mt. Carmel's service territory covers approximately 107 square miles, including one incorporated municipality (the City of Mt. Carmel) and small communities and rural areas in central and northern Wabash County.

4. Mt. Carmel's Electric Distribution System

Approximately 97.6% (259 miles) of Mt. Carmel's electric distribution system is overhead, with the remaining 2.4% (6.4 miles) being underground. 30% of Mt. Carmel's circuit miles consist of urban distribution facilities. Mt. Carmel reported that it has two transmission substations, three distribution substations, a total of twelve distribution feeders (all 12 kV), and four industrial/wholesale substations.

Code Part 411.120(b)(3)(G) requires the utilities to report on the age of their transmission and distribution facilities. Mt. Carmel estimates the approximate average age of its transmission facilities to be 20.7 years, with an average remaining life of approximately 9.3 years. Mt. Carmel estimates the approximate average age of its distribution facilities to be 21.98 years, with an average remaining life of 8.02 years.

5. Assessment of Mt. Carmel's 2004 Reliability Report

Mt. Carmel filed its annual electric reliability report for calendar year 2004 on June 1, 2005, as required by Section 16-125 of the Public Utilities Act and the Commission's electric reliability rules in 83 Illinois Administrative Code, Part 411. Mt. Carmel's report is well organized, with the information sequenced to follow the pattern of Code Part 411.

6. Mt. Carmel's Historical Performance Relative to Established Reliability Targets

Code Part 411.140(b)(4)(A-C) establishes electric service reliability targets that jurisdictional entities (utilities) must strive to meet. These targets specify limitations on customer interruptions as well as hours of interruption that a utility must strive not to exceed on a per customer basis. Code Part 411.120(b)(3)(L) requires each utility to provide a list of every customer, identified by a unique number, who experienced interruptions in excess of the service reliability targets, the number of interruptions and interruption duration experienced in each of the three preceding years, and the number of consecutive years in which the customer has experienced interruptions in excess of the service reliability targets.

In April 2004, Mt. Carmel Public Utility Company, along with all other regulated Illinois electric utilities, agreed to report on all interruptions (controllable and uncontrollable) as defined in Code Part 411.20 in relation to the service reliability targets for the reporting periods of 2003 through 2007, and to include the specific actions, if any, that the utility plans or has taken to address the customer reliability concerns.

The customer service reliability targets are listed in Table 1.

Table 1
CUSTOMER SERVICE RELIABILITY TARGETS

Immediate primary source of service operation voltage	Maximum number of interruptions in each of the last three consecutive years	Maximum hours of total interruption duration in each of the last three years
69kV or above	3	9
Between 15kV & 69kV	4	12
15kV or below	6	18

In its 2004 reliability report, Mt. Carmel stated that it had no customers who experienced interruptions in excess of the service reliability targets.

Mt. Carmel did report that 85 of its customers experienced more than six interruptions in 2004 versus 38 experienced more than six interruptions in 2003. This is discussed further in Section 8 of this report.

7. Analysis of Mt. Carmel's Year 2004 Reliability Performance

Table 2 shows Mt. Carmel's company-wide reliability indices for calendar year 2004 compared to the other eight reporting Illinois electric utilities. This data indicates that Mt. Carmel was the sixth most reliable electric utility in Illinois in terms of average duration of customer interruptions (CAIDI) in 2004, only slightly higher than the average of all nine utilities. Mt. Carmel was the least reliable utility, however, in terms of average frequency of system interruptions (SAIFI) and average frequency of customer interruptions (CAIFI) during 2004 as it has been for the three years it has been reporting system SAIFI and CAIFI numbers. Although the overall SAIFI is slightly better than reported in 2003 (SAIFI improved from 2.71 in 2003 to 2.69), Mt. Carmel's overall 2004 SAIFI of 2.69 was still 32.5% higher than the next worst utility in this category, MidAmerican Energy Company.

Note: The comparison of company-wide reliability indices for Illinois electric utilities should indicate relative reliability levels achieved. The reader of this report should, however, keep in mind that each Illinois electric utility has a unique electric system, a unique group of customers, and a unique method of defining, recording, and reporting the interruption data. These differences make precise utility-to-utility comparisons difficult.

Table 2
YEAR 2003 RELIABILITY INDICES FOR REPORTING UTILITIES

a) SAIFI

	SAIFI
South Beloit	0.61
Interstate	0.64
ComEd	1.21
AmerenCILCO	1.45
AmerenIP	1.49
AmerenCIPS	1.66
AmerenUE	1.69
MidAmerican	2.03
Mt. Carmel	**2.69**

b) CAIDI

UTILITY	CAIDI
MidAmerican	70
Interstate	77
South Beloit	96
ComEd	128
AmerenCIPS	143
Mt. Carmel	**177**
AmerenCILCO	247
AmerenIP	268
AmerenUE	278

c) CAIFI

UTILITY	CAIFI
South Beloit	1.35
Interstate	1.40
ComEd	2.00
AmerenCIPS	2.01
AmerenCILCO	2.03
AmerenUE	2.05
AmerenIP	2.26
MidAmerican	2.72
Mt. Carmel	**2.86**

SAIFI= $\frac{\text{Total \# Customer Interruptions}}{\text{Total \# Customer Served}}$ **CAIDI=** $\frac{\text{Sum of all Interruption Durations}}{\text{Total \# Customer Interruptions}}$ **CAIFI=** $\frac{\text{Total \# Customer Interruptions}}{\text{Total \# Customers Affected}}$

Table 3 shows a breakdown of thirteen causes of sustained customer interruptions by cause category, as reported by Mt. Carmel for year 2004. The total number of interruptions reported for 2004 (495) is up almost 60% from the same data reported for year 2003 (301). The total number of interruptions has increased each of the three years that Mt. Carmel has filed its annual reliability report.

Mt. Carmel reported that the highest percentages of customer interruptions in 2004 were caused by weather at 35%. Overhead equipment was listed as the cause for 15% of the interruptions, and animals were the third highest cause at 14% of the total interruptions. The number of weather-caused interruptions (173) increased by almost three times from the 62 attributed to that cause in 2003. Some of the interruptions attributed to weather may have also been tree related. Tree related interruptions (39) remained constant compared to the 41 interruptions attributed to trees in 2003. The second largest increase in number of interruptions was intentional/maintenance caused interruptions which increased from 17 in 2003 to 54 in 2004.

Table 3
TOTAL INTERRUPTIONS BREAKDOWN BY CAUSE

Interruption Cause Category	Number of Interruptions	Percent of Total Interruptions
Animal Related	70	14.1%
Tree Related	39	7.9%
Employee/Contractor Personnel Errors	0	0
Underground Equipment Related	1	0.2%
Transmission/Substation Equipment Related	0	0
Weather	173	35.0%
Intentional/Maintenance	54	10.9%
Other Alternative Supplier/Utility	0	0
Customer Equipment	24	4.9%
Public	17	3.4%
Overhead Equipment Related	73	14.8%
Unknown	44	8.9%
Other	0	0
TOTAL:	**495**	**100.00%**

Code Part 411.120(b)(3)(I)&(J) requires the reporting utility to list its worst performing circuits (subsection I) and then state (subsection J) what corrective actions are planned to improve those circuits' performance. Table 4 shows the Mt. Carmel circuits with the highest (worst) reliability indices for 2004. The bolded values represent the indices that caused the circuit to be a worst performer.

Table 4
MT. CARMEL'S CIRCUITS WITH HIGHEST SAIFI, CAIFI, & CAIDI
CALENDAR YEAR 2004

AREA	CIRCUIT	SAIFI	CAIFI	CAIDI (minutes)
Circuit #6*	16000*	**3.13**	**3.13**	154
Allendale Feeder	22000	1.72	2.28	**361**
Circuit #4*	14000*	2.69	2.74	151
West 3rd St. Feeder*	31000*	2.12	2.18	88

As part of Staff's review of Mt. Carmel's 2004 reliability, Staff inspected three of Mt. Carmel's circuits, marked with asterisks (*) in Table 4. To obtain an overall impression Staff inspected two urban and one rural circuit.

The field inspections allow Staff to verify that work was performed on the circuits as reported by the utilities and to see if there are any apparent reasons for poor performance

of these circuits. Staff also notes any problems with the facilities it observes which may pose a threat to future service reliability or to public safety. For example, Staff looks for poor tree trimming practices, broken poles, split crossarms, damaged electrical devices, etc.

Summaries of items noted by Staff during the field inspections of the selected Mt. Carmel distribution circuits this year are included in this report as Attachment "A". (As mentioned to Mt. Carmel when providing them with a copy of these summaries in June, the summary for each of the circuits inspected represents typical observations noted by ICC Staff during the field inspections and is not intended to represent all of the problems or potential problems that may exist on each circuit. Also, Staff's inspections are not intended to take the place of the thorough, detailed inspections that should be performed periodically by the utility company.)

Circuit 16000 – Circuit #6

SAIFI=3.13 CAIDI=154 CAIFI=3.13

This 12kV circuit, a 2004 worst performing circuit due to SAIFI and CAIFI, serves 163 customers in Mt. Carmel. This circuit is very short serving mainly a hospital and a school. Most of the circuit is located on the same pole line as other Mt. Carmel distribution circuits.

Of the seven interruptions, three were total circuit interruptions caused by storms. This circuit is a worst performing circuit in 2004 due to the three total circuit outages. Of the remaining four interruptions, two were caused by animals, one by weather, and one by distribution equipment problems. Mt. Carmel reported that no major improvements were made in 2003 or 2004 to this circuit and no major improvements are planned. Mt. Carmel reported that this circuit was inspected in July, 2004.

Staff inspection of this circuit found no problems or concerns. Since the substation breaker operated three times in 2004 the only suggested reliability measure is to have the circuit breaker and protective relays for this circuit tested and maintained to ensure that they are working correctly.

Given the observed good condition of distribution facilities that make up this circuit, Staff expects that Circuit 16000 will perform reliably in the future.

Circuit 31000 – West 3rd Street Feeder

SAIFI=2.12 CAIDI=88 CAIFI=2.18

This 12kV circuit, a 2004 next to worst performing circuit due to SAIFI and CAIFI, serves 852 customers in a large area to the west and southwest of Mt. Carmel, including Sugar Creek and Keensburg. This circuit is very long and has approximately forty miles of line exposure. This was also Mt. Carmel's worst performing circuit in 2003, having the highest SAIFI of all Mt. Carmel circuits that year.

Of the eighty-one outages on this circuit in 2004, one was a total circuit outage. Thirty-two of the outages Mt. Carmel reported were caused by weather, fifteen were animal related, thirteen were due to distribution equipment problems, ten were due to trees, and the

remaining were either unknown causes or due to the public. Mt. Carmel reported that their general three-year cycle tree trimming of the circuit was completed in March 2005. Staff noticed many locations of recent spot trimming. Mt. Carmel also reported that this circuit was last inspected in January 2003.

Staff found eighteen locations where the circuit's reliability could be compromised. See Attachment A for a complete description of the eighteen locations. Fourteen of these locations Staff found trees or vines growing near or into the primary conductor(s). Considering this circuit was reported to have completed its three year cycle tree trimming in March 2005 Staff did not expect to find this many tree related problems during the inspection of the circuit. Staff recommends Mt. Carmel executes a more comprehensive tree trimming as part of their three year tree trimming cycle.

The remaining four locations were where poles and/or hardware were found to be in bad or deteriorated condition. Photo #1 is an example of some of the tree conditions and photo #2 is an example of some of the bad or deteriorated conditions found on this circuit during Staff's inspection and trees during Staff's inspection.

Photo #1
On Beall Woods Avenue East of Mt. Carmel
Conductors touching the tree

Photo #2
On E700 Rd East of Mt. Carmel
Pole top split

Mt. Carmel did report that two projects are underway that should have a positive impact on the reliability of this circuit. The first project is the continued upgrade and conversion from overhead to underground of the Oressia Heights Subdivision, which is to be completed in the fall of 2005. The second project is the installation of a new substation to the Southwest of Mt. Carmel. Mt. Carmel indicated that the new circuits out of this substation will reduce the load and line length of circuit #31000. The substation is scheduled to be completed in 2006. Staff believes the installation of the new substation and associated distribution circuit(s) will provide an opportunity for Mt. Carmel to improve the reliability its customers in this portion of their territory.

Staff believes that a large percentage of the thirty-two weather related outages (40% of the total number of interruptions) would not have occurred if the older installations had been rebuilt and the trees properly trimmed. Staff also believes that trees or equipment failures could have caused some of the outages Mt. Carmel classified as being caused by weather. The fact that an outage occurred during a storm does not automatically mean it was

caused by weather. Staff believes Mt. Carmel should make it their practice to look at the root cause that individual outage.

Mt. Carmel did report numerous projects are to be completed on this circuit in 2004. Only three of the projects will improve the reliability of the circuit. These projects installed new underground primary and sectionalizing switches.

Given the length of this circuit (41 miles) Staff was pleased with the overall condition of distribution facilities but Staff is concerned with the number of locations that trees and vines were found growing near or into the conductor considering that the tree trimming of this circuit was completed three months prior to Staff's inspection of this circuit. Mt. Carmel should verify that the tree trimming is sufficient to maintain proper clearance to implement its three year cycle.

Circuit 14000 – Circuit #4
SAIFI=2.69 CAIDI=151 CAIFI=2.74
This 12kV circuit, a 2004 next to worst performing circuit due to SAIFI and CAIFI, serves 488 customers in Mt. Carmel. This circuit is very short with only approximately four miles of line exposure.

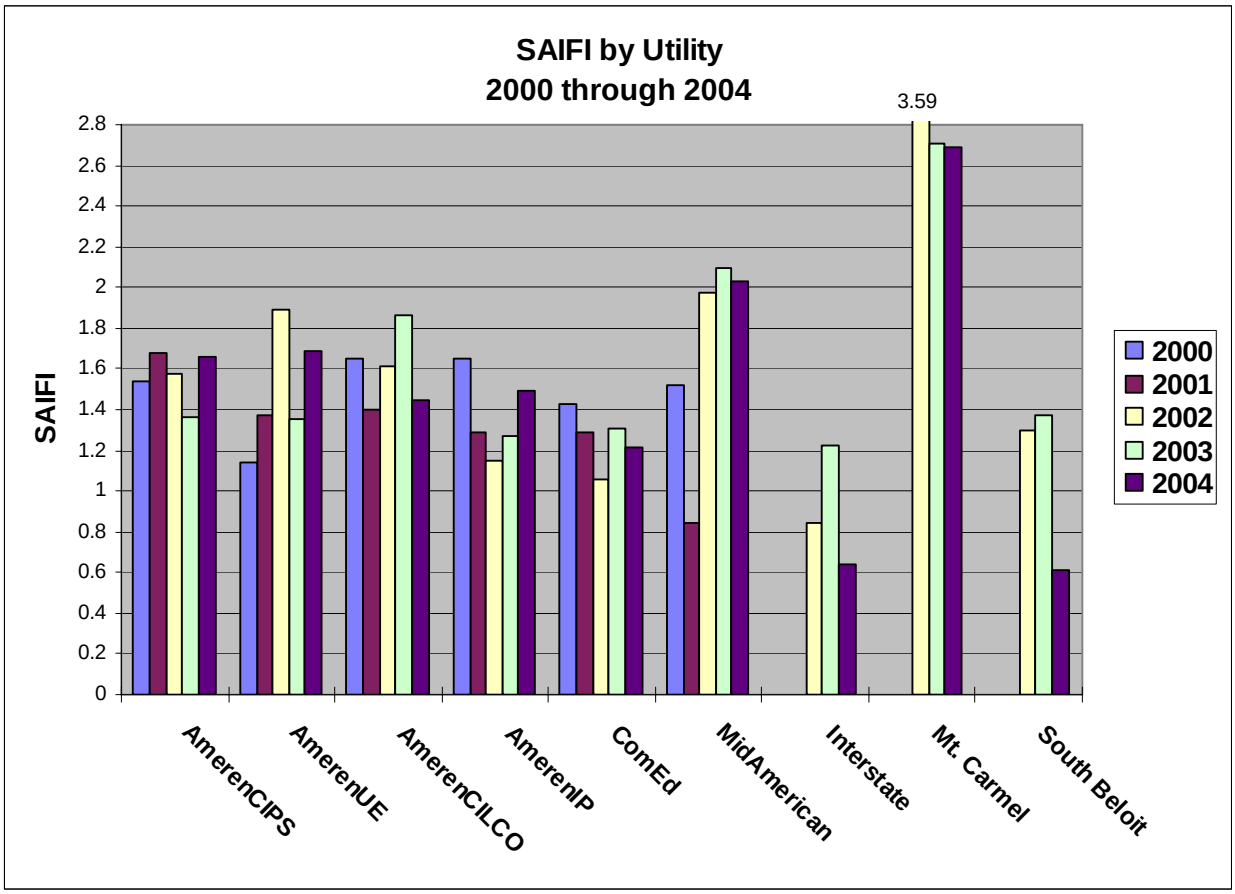
Of the twelve outages on this circuit in 2004, two were total circuit outages. Seven of the outages Mt. Carmel reported were caused by weather, two were due to distribution equipment problems, and two were due to trees. Mt. Carmel reported that their general three-year cycle tree trimming of the circuit was completed in March 2005 and that portions of the circuit were trimmed during 2004. Staff noticed many locations of recent trimming. Staff found only one possible reliability concern during the inspection. See Attachment A for a description of the location. Mt. Carmel also reported that this circuit was last inspected in August 2004. Mt. Carmel reported that no projects were completed on this circuit in 2004.

Mt. Carmel should consider an orderly replacement of the older poles and hardware that is in use as one way to improve the reliability of this circuit.

8. Trends in Mt. Carmel's Reliability Performance

Figure 1 shows a comparison of company-wide SAIFI values reported by the Illinois utilities for years 2000 through 2004. Mt. Carmel's reported 2004 company-wide SAIFI performance improved only slightly from year 2003. Mt. Carmel had the highest (worst) overall SAIFI performance among all the reporting utilities in 2004. Mt. Carmel's company-wide SAIFI has not improved appreciably in the three years it has reported to the Commission.

Figure 1



Mt. Carmel appears to be establishing a trend in its reported overall SAIFI reliability performance that shows Mt. Carmel customers consistently experience more interruptions than other Illinois utility customers for the past three years. Mt. Carmel did report that they experienced severe storms in 2004 that affected their SAIFI performance. It is notable, however, that Mt. Carmel's 2003 and 2004 overall SAIFI of 2.71 and 2.69 are an improvement from its 2002 overall SAIFI of 3.59. Even so, there is much room for Mt. Carmel to improve its company-wide SAIFI in 2005.

Figure 2 shows a comparison of SAIFI values for each company's single worst performing circuit as reported by the Illinois utilities for years 2000 through 2004. Mt. Carmel's reported 2004 worst-circuit SAIFI performance of 3.13 was the third lowest (best) of all the nine reporting Illinois utilities for 2005 only Interstate Power and South Beloit reported better worst-circuit SAIFI than Mt. Carmel. Mt. Carmel has not yet reported enough worst-circuit SAIFI data to establish a significant trend.

Figure 2

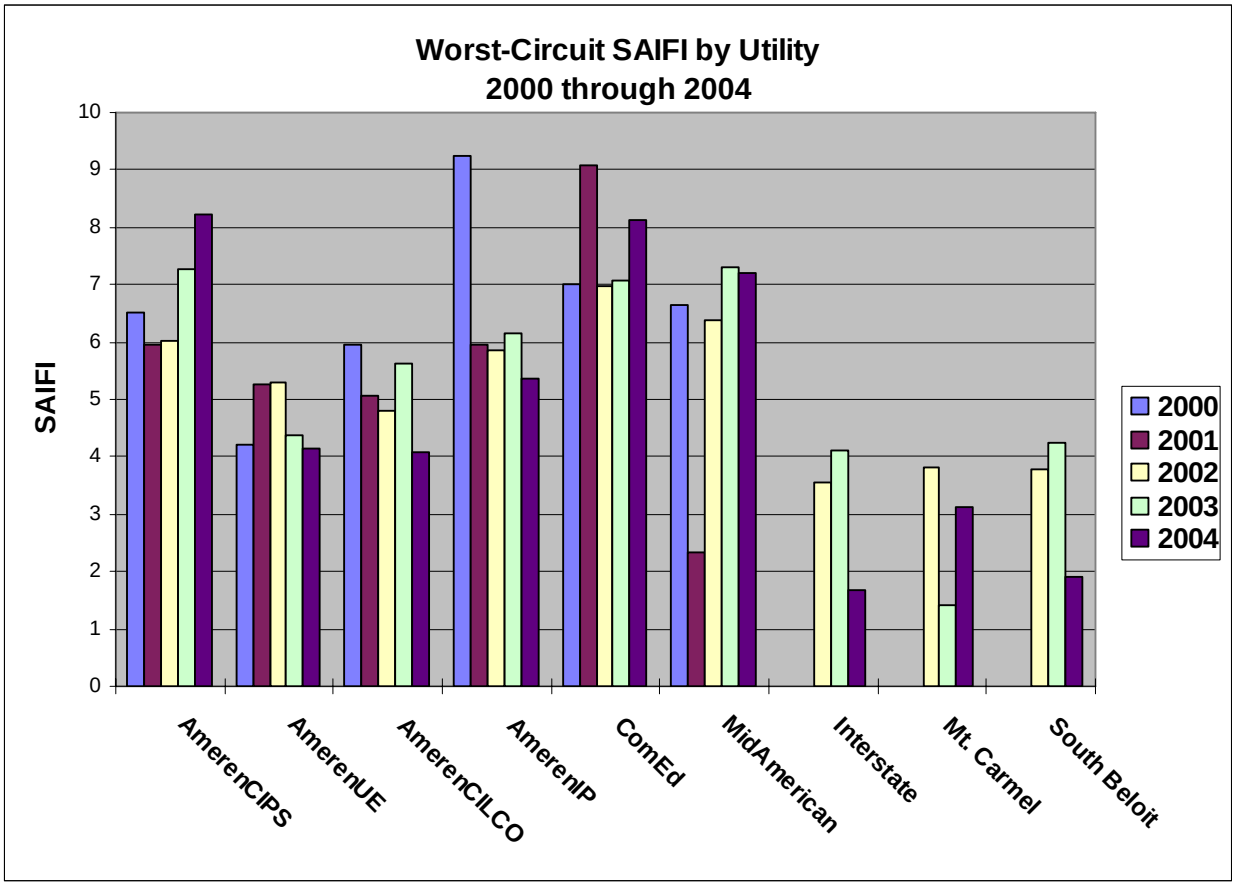
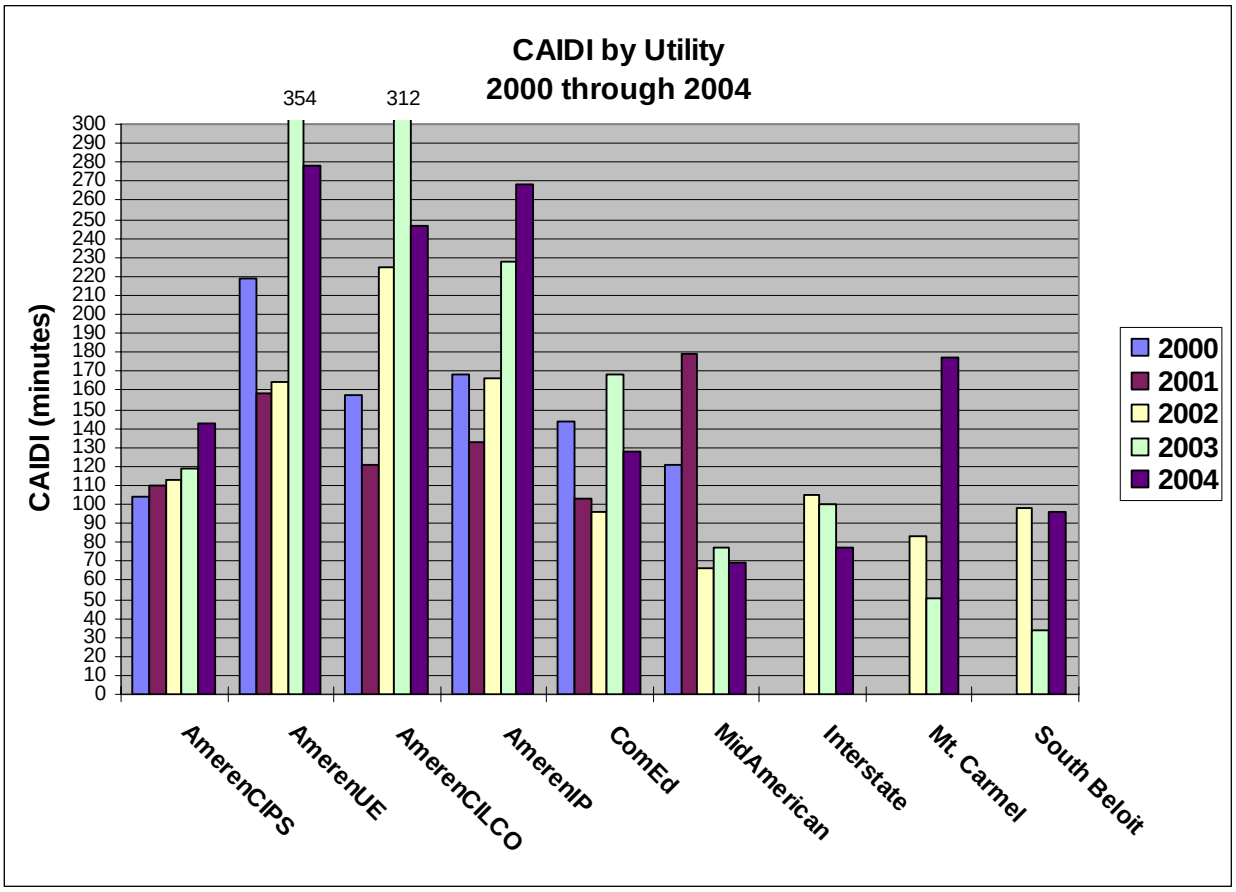


Figure 3 shows a comparison of company-wide CAIDI values reported by the Illinois utilities for years 2000 through 2004. At 177 minutes, Mt. Carmel's reported 2004 company-wide CAIDI performance was the sixth best reported by the nine-utility group, with the average being 165 minutes. Mt. Carmel's 2004 company-wide CAIDI was significantly higher (poorer performance) from its reported overall CAIDI for 2003 of 50 minutes. Mt. Carmel reported that the poorer CAIDI value was due in a large part to the number of system-wide storms during 2004.

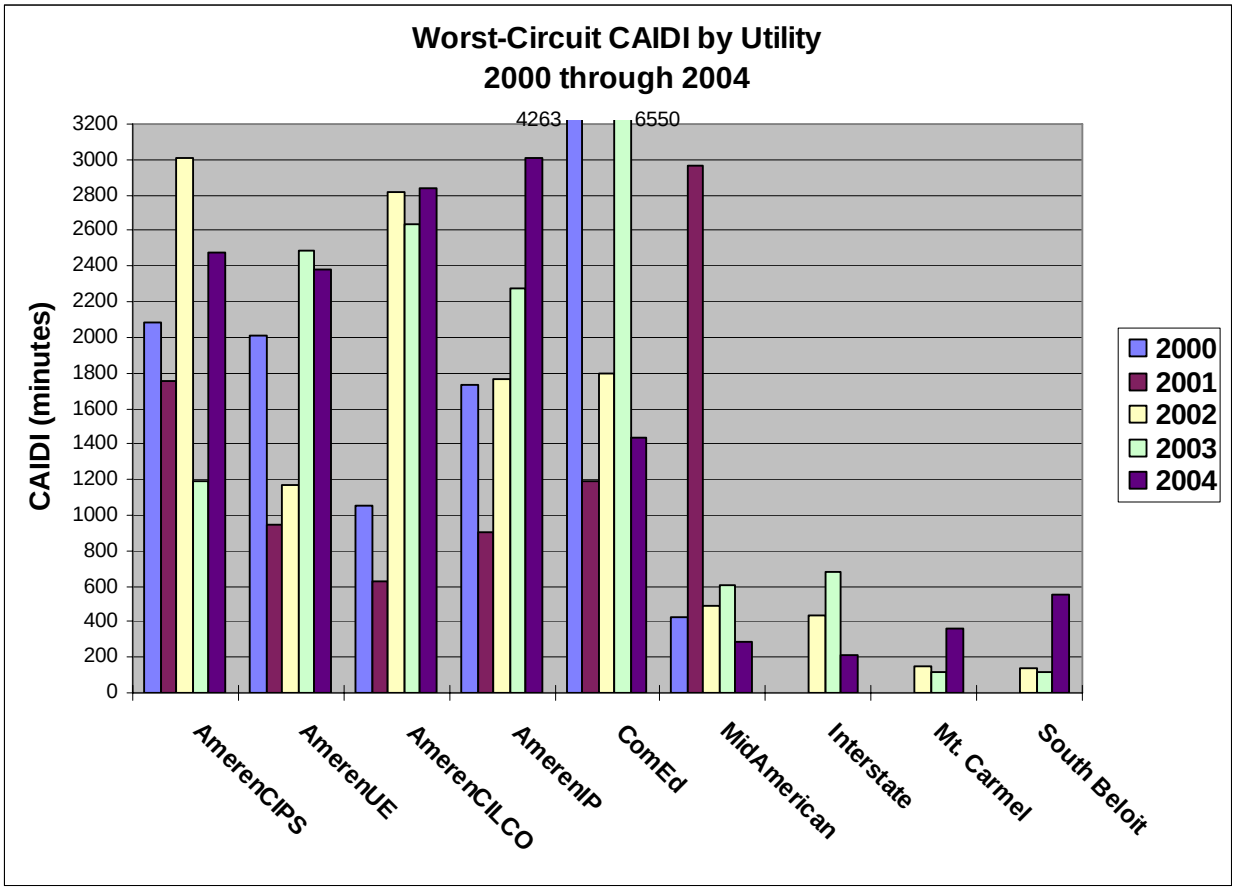
Figure 3



As stated earlier, 2002 was the first year of reliability reporting for Mt. Carmel and it has not yet established a significant trend of its own reported reliability performance. It is not promising that Mt. Carmel's 2004 overall CAIDI more than tripled from its 2003 value. Staff will closely monitor this index in the future.

Figure 4 shows a comparison of CAIDI values for each company's single worst performing circuit as reported by the Illinois utilities for years 2000 through 2004. Mt. Carmel's reported 2004 worst-circuit CAIDI performance of 361 minutes was the third best of all the nine reporting Illinois utilities for 2004. Only MidAmerican and Interstate had better 2004 worst-circuit CAIDI values.

Figure 4



As in its company-wide CAIDI, Mt. Carmel has not yet reported enough worst-circuit CAIDI data to establish a significant trend. It is notable, however, that Mt. Carmel's 2004 worst-circuit CAIDI of 361 minutes, while good compared to the other utilities, was more than three times higher than the 2003 worst-circuit CAIDI of 113 minutes.

Table 5 shows the number and percentage of Mt. Carmel customers who experienced no service interruptions or less than four service interruptions for each of years 2002, 2003 and 2004. While only three years of data have been reported, it is worth noting that the number of customers that experienced no interruptions has improved each year while the number of customers that had experienced less than four interruptions dropped slightly from 2003.

Table 5

Mt. Carmel Customers with No Interruptions or Less Than Four Interruptions

Year	Total Customers	Customers with No interruptions		Customers with < 4 interruptions	
2002	5,923	0	0.00%	3,656	61.7%
2003	5,746	21	0.37%	4,809	83.7%
2004	5,761	342	5.9%	4,231	73.4%

Table 6 shows the number and percentage of Mt. Carmel customers who experienced more than six and more than ten service interruptions for each of years 2002, 2003 and 2004. While only three years of data have been reported, note that the number of customers experiencing more than six interruptions improved is not consistent, and that for the first time eight customers experienced more than ten interruptions.

Table 6
Mt. Carmel Customers with More Than Six and More Than Ten Interruptions

Year	Total Customers	Customers with > 6 interruptions		Customers with > 10 interruptions	
2002	5,923	298	5.0%	0	0.0%
2003	5,746	38	0.7%	0	0.0%
2004	5,761	85	1.5%	8	0.1%

Overall, the statistics provided in Mt. Carmel's 2004 reliability report indicate fairly consistent performance in frequency of interruptions and a decrease in performance in duration of interruptions when compared to similar data provided for previous years. However, the statistics do not indicate any overall improvement in the reliability which means Mt. Carmel remains the least reliable utility in terms of SAIFI and CAIFI.

9. Mt. Carmel's Plan to Maintain or Improve Reliability

Plans described in Mt. Carmel's annual reliability report to maintain or improve reliability include:

- Continue to install animal protection at new transformer installations as well as at locations which experience animal related interruptions.

- Install lightning protection at set intervals on Circuit 22000 (Allendale Feeder) to determine if the added protection will reduce the number of lightning related interruptions (scheduled for completion in spring, 2005).

- Review circuit interruption data to determine if the installation of more sectionalizing devices, or facility rebuild or relocation is necessary to improve reliability.

- Complete the upgrade and relocation of existing distribution facilities (Circuit 31000--West 3rd Street Feeder) in Oressa Heights Subdivision from overhead to underground (scheduled for completion in fall, 2005).

- Construct a new substation southwest of Mt. Carmel and two new feeders, to supply some of the load presently on Circuit 31000 (West 3rd Street Feeder) and to allow for future growth in an industrial park (scheduled for completion in mid 2006).

- Install a line recloser in Circuit 22000 (Allendale Feeder) in an effort to further sectionalize the outer reaches of this circuit (scheduled for completion in fall, 2005).

Mt. Carmel's reported annual expenditures for its distribution system, tree trimming, and transmission system for years 1998 through 2004, and the 2005 through 2007 budgets for these categories, are provided in Table 7. This information for the distribution system for the period 2000-2007 and for tree trimming for the period 1998-2007 is also represented graphically in Figures 5 and 6, respectively.

The proposed overall distribution O&M and capital budget for years 2006 and 2007 is less than what has been spent in years 1998-2004. This is a concern to Staff since Mt. Carmel's overall reliability indices would indicate that Mt. Carmel should be increasing not decreasing its planned spending in an attempt to improve its reliability. Staff will continue to track Mt. Carmel's spending and system improvements in future years to ensure that its customers' reliability is not being reduced. Both 2004 and 2005 capital expenditures for distribution and transmission are high due to the construction of the new substation, transmission and distribution project.

Table 7

Year	Distribution			Tree Trimming	Transmission		
	Capital	O & M	Total		Capital	O & M	Total
1998	$351,917	$694,049	$1,045,966	$317,025	$32,265	$28,916	$61,181
1999	$365,431	$768,379	$1,133,810	$345,116	$65,109	$10,844	$75,953
2000	$365,805	$723,636	$1,089,441	$384,818	$10,289	$11,745	$22,034
2001	$510,468	$665,064	$1,175,532	$289,192	$28,429	$100,000	$128,429
2002	$515,670	$681,280	$1,196,950	$291,206	$50,593	$383,776	$434,369
2003	$561,635	$742,584	$1,304,219	$296,366	$7,946	$347,925	$355,871
2004	$2,177,822	$805,495	$2,983,317	$257,037	$1,247	$44,023	$45,270
2005 Budget	$400,000	$825,000	$1,225,000	$310,000	$600,000	$50,000	$650,000
2006 Budget	$50,000	$850,000	$900,000	$315,000	$10,000	$50,000	$60,000
2007 Budget	$50,000	$855,000	$905,000	$315,000	$10,000	$50,000	$60,000

Figure 5

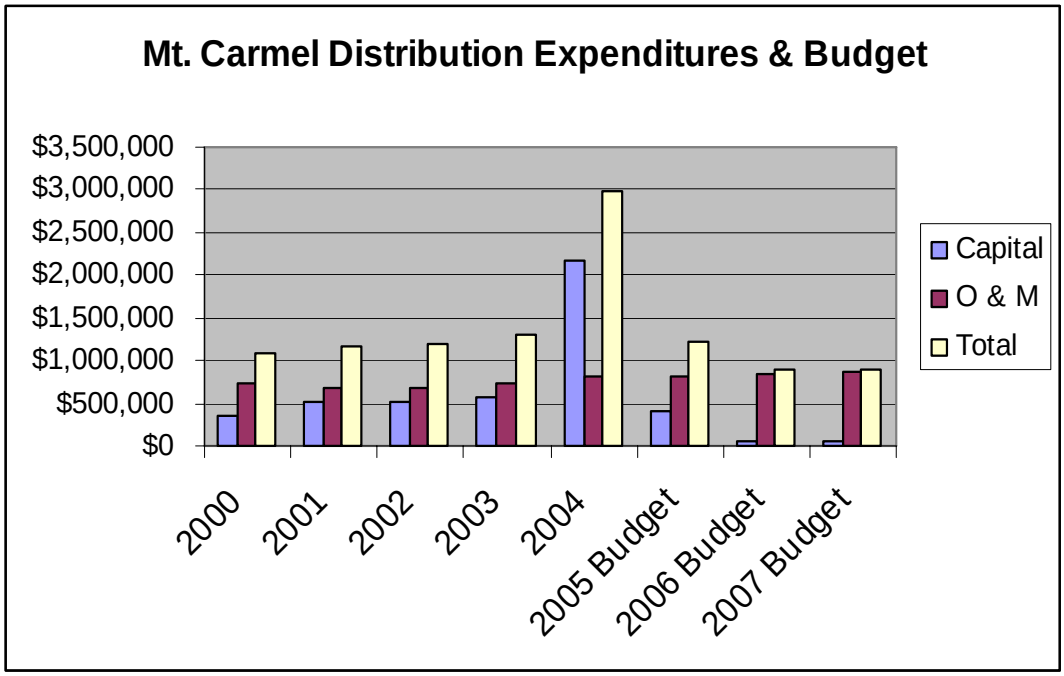
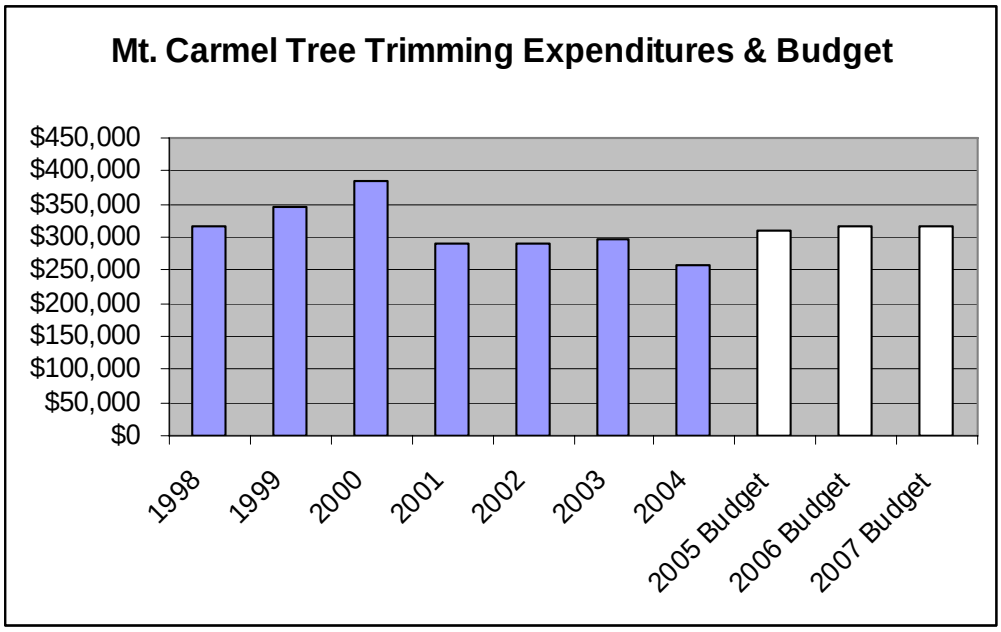


Figure 5 shows that Mt. Carmel plans to hold its distribution O&M expenditures for the next three years at slightly above the level that it spent in 2004. After a large distribution capital increase in 2004, primarily for the construction of a new distribution substation, Mt. Carmel's plan calls for significant distribution capital decreases in 2006 and 2007, to levels well below that spent in any of the past years going back to at least 1998. As mentioned previously, this trend does not indicate that Mt. Carmel is attempting to improve its system and at that level of spending it is hard to see Mt. Carmel maintaining the status quo let alone improving. In Staff's opinion this means Mt. Carmel will likely continue to have the worst system interruption frequency in the state.

The information shown in Figure 6 shows that Mt. Carmel did not increase its tree trimming expenditures since 2000. Figure 6 also shows that the planned tree trimming expenditures (allowing for inflationary increases) for the next three years will be at a reduced level.

Figure 6



Mt. Carmel has stated that it "has implemented a plan, beginning July 1, 2004, which should allow for the distribution system to be trimmed on a three year cycle." It does not appear to Staff, however, that Mt. Carmel's tree trimming budget for the next three years will be sufficient to allow adequate recovery from the presently poor status of its tree trimming program within that period. Even though few serious tree related problems were observed by Staff, during the three circuit inspections, Staff is concerned that Mt. Carmel may not be funding its tree trimming effort sufficiently to implement its three year cycle. Staff will continue to investigate Mt. Carmel's tree trimming effort and funding.

Mt. Carmel provided a description of actions taken or planned for each of the worst performing circuits listed in its 2004 reliability report. Each of the problems described in the outage history for each circuit was addressed in some way by the described actions taken or planned. Mt. Carmel's reported actions taken or planned for each circuit seemed reasonable, but it should also address any additional problems revealed on each of the circuits during Staff's circuit inspections.

10. Potential Reliability Problems and Risks

Mt. Carmel's proposed distribution O&M and capital budget for years 2005 and 2006 is less than what has been spent in years 1998-2004. This is a concern to Staff since Mt. Carmel's overall reliability indices would indicate that Mt. Carmel should be increasing not decreasing its planned spending in an attempt to improve its reliability. With the reported lower budgeted funds Mt. Carmel will have difficulty even maintaining the status quo. In Staff's opinion this means Mt. Carmel will likely continue to have the worst system interruption frequency in the state.

Mt. Carmel is on a tree trimming catch-up program currently with the goal of being on a three-year tree trimming program meeting the requirements of NESC Rule 218 by July 1, 2007. Even though few tree related problems were observed by Staff, during the three circuit inspections, Staff is concerned that Mt. Carmel may not be properly trimming trees or funding its tree trimming effort sufficiently to catch-up or implement its three year cycle. Staff will continue to investigate Mt. Carmel's tree trimming effort and funding.

Mt. Carmel needs to address all of the problems noted during Staff's circuit inspections.

11. Review of Mt. Carmel's Implementation Plan for the Previous Reporting Period.

Mt. Carmel reported that the remedial actions to be done in 2004 for each of its year 2003 worst performing circuits, described in its 2003 reliability report, were either completed, accomplished by other actions, or rescheduled because of reasons given. Upon reviewing the status of these planned actions for each circuit, Staff finds the corrective actions taken or revised to be reasonable.

12. Summary of Recommendations

1. Mt. Carmel should do whatever is necessary to achieve and maintain a three-year tree trimming cycle that is in compliance with NESC Rule 218 throughout its service territory. Mt. Carmel should verify it has budgeted sufficient funds to obtain and maintain a three year tree trimming cycle.

2. Mt. Carmel should investigate all of the problems noted during Staff's inspections of worst performing and other circuits (see Attachment "A") and take appropriate remedial actions addressing any problems on those circuits, whether or not noted by Staff, which can significantly affect service reliability or public safety.

3. Mt. Carmel should perform field inspections of all circuits on a regular basis and correct the problems found which can affect reliability or public safety.

4. Mt. Carmel should investigate reducing the length of the three long circuits on their system. Staff feels that the reduction in circuit length could be accomplished by dividing the circuits, transferring load to shorter urban circuits or by adding sectionalizing equipment to the circuit. Mt. Carmel should attempt to complete the new substation project on schedule in 2006 to further reduce the circuit length.

5. Mt. Carmel classified over 1/3 of all the interruptions as being caused by weather; Staff believes that a portion of the weather caused outages could have been classified differently. Mt. Carmel should make it their practice to look for the root cause of the outage.

6. Mt. Carmel should reevaluate its budgeted funds for distribution O&M and capital to ensure there is sufficient funding to not only maintain the existing system but to improve it thereby improving the overall reliability its customers see.

Attachment A: Summary of Field Inspections

Summary of Distribution Circuit Field Inspection by ICC Staff

Utility:	Mt Carmel PUC	Date:	5/31/05
Circuit:	MCPU #14000 (Circuit #4)	Inspector:	Ron Linkenback & Larry Horrall of MCPU

Gen. Notes: This is a small 12kV circuit located within the city limits of Mt Carmel. This circuit was a next to worst performer in 2004. This circuit has not been inspected by the ICC staff previously. Very few tree or animal reliability concerns found. Of the twelve reported outages in 2004, six were reported to be caused by major storms.

Map No.	*Item Description*	*Photo(s)*	*Location*
1	Crossarm brace off		On Chestnut St. between 8th and 9th Street.

Summary of Distribution Circuit Field Inspection by ICC Staff

Utility:	**Mt Carmel PU**	**Date:**	**5/31/05**
Circuit:	**MCPU #31000 (West 3rd St Fdr)**	**Inspector:**	**Ron Linkenback & Larry Horrall of MCPU**

Gen. Notes: This is a large 12kV mostly rural circuit. This circuit was a next to worst performer in 2004 and was previously inspected in 2003.
In the heavily wooded areas lack of animal guards on transformer installations was noted.
MCPU has various reliability projects currently underway on this circuit. Tree trimming crews were working on this circuit on 5/31/05.

Map No.	*Item Description*	*Photo(s)*	*Location*
2	End of the crossarm split		At Division and 6th Street
	Tree growing close to conductors		In alley east of Division and 6th Street.
3	Trees close to conductors		Lambert Drive area, scheduled for fall 2005 trimming
	Tree into line		On West 3rd St at Oak Street.
4	Crossarm worn, pin dropped through arm.		On Highway 1 just east of N 1250 Bvld connection.
	Vines growing up into primary		On N1250 Blvd west of Highway 1 connection
	Trees close to conductors		On E960 Lane off of Wabash 10 Avenue.
	Tree into line		At E1020 Lane and Wabash 10 Avenue
5	Trees near line		Tap off Wabash 10 Avenue on E920 Rd.
	Trees into line		Tap off Wabash 10 Avenue on E940 Rd.
6	Vines growing up into primary		Tap off E820 Rd just south of N1220 Blvd.
8	Trees in line		On Beall Woods Avenue off of N900 Blvd.
9	Split pole top		On E750 Rd just north N850 Blvd
12	Multiple locations of trees in line		On N1220 Blvd just east of E650 Rd.
13	Split pole top		N1250 Blvd and E700 Rd.
	Multiple locations of trees in line		On E700 Rd tap going north of Highway 15.
14	Vines growing up into primary		On N1300 Blvd west of Highway 15 intersection
	Vines growing up into primary		North tap off Highway 15 just east of intersection with N1300.